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**Sent:** 8/6/2019 3:31:06 PM  
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**CC:** Whitten, Barbara [bwhitten@asce.org]; robert.traver@villanova.edu; Shang, Feng [shang.feng@epa.gov]; Tryby, Michael [Tryby.Michael@epa.gov]  
**Subject:** EPANET 2.2 Beta Testing  
**Attachments:** EPANET\_EWRI\_Congress\_2019\_EPANET.pdf

Dear Attendees of the 2018 EWRI EPANET Visioning Summit:

I am reaching out to you today to announce that a new beta version of EPANET is available for testing purposes. As you might recall, one of the outcomes of the Summit was a short list of new features to include in the next version of EPANET. In addition, there was an agreement to pursue an open source approach to development. Since the Summit, EPA has been collaborating with developers on the Open Water Analytics Github site (<http://wateranalytics.org/>) to improve the EPANET hydraulic and water quality engines, and we have integrated the engines into an updated user interface.

The new features/upgrades in EPANET 2.2 beta include:

- Pressure-dependent demands
- More robust convergence criteria
- A more efficient sparse matrix ordering method and therefore faster solution time for single period hydraulic analysis
- Improved numerical handling of near-zero flows
- Allowing tanks to overflow when full
- Improved water quality mass balance enforcement and mass balance reporting
- A more comprehensive set of API functions that allow thread-safe running of the engines and dynamic building and modification of the network model
- A new testing framework including unit and regression tests to ensure software quality control

For more information on the new features, please see the attached presentation that was given at the EWRI Congress in May.

Over the next several weeks, we will be beta testing the software. Once we receive and address feedback from stakeholders (including you, we hope!), EPA will release this new version on the EPANET website: <https://www.epa.gov/water-research/epanet>.

Would you be interested in helping to beta test the software? If so, please reply to me and cc Robert Janke (Janke.Robert@epa.gov), and we will follow up with more details. We will be looking for feedback by September 13.

Please join me in thanking Lew Rossman, Sam Hatchett, Elad Salomons, Demetrios Eliades, Marios Kyriakou and Michael Tryby, among others, for their significant contributions to the EPANET code. (Please see the attached presentation for the full list of contributors.) I would also like to acknowledge EWRI for the important role they played in bringing together all the major EPANET stakeholders last year, and the EPANET Visioning Task Committee for continuing to push forward the ideas generated at the Summit.

Finally, I'd like to thank all of you for sharing your ideas and opinions during the Summit, and for your commitment to EPANET and water distribution systems modeling. With your help, there will be a new open source version of EPANET available to the public within a few months.

Sincerely,

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